

INDIANS AT + WORK



SEPTEMBER 15, 1936

A NEWS SHEET FOR INDIANS
AND THE INDIAN SERVICE

· OFFICE · OF · INDIAN · AFFAIRS ·
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I N D I A N S A T W O R K

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A SILVERSMITH AT WORK



Photograph by Mario Scacheri



• INDIANS • AT • WORK •

A News Sheet for Indians
and the Indian Service

VOLUME IV • SEPTEMBER 15, 1936 NUMBER 3

As I have been five days on the stand at a Senate inquiry, naturally my editorial grows out of thoughts occasioned by these hearings.

1.

Two million acres of land. Immemorially occupied by Indians. Densely populated by them - densely, for this semi-desert region. Ninety-seven hundred Indians, and eighty whites; and nearly half of the eighty whites live by trading with Indians.

All of this disputed land, and much more of adjacent land, was Indian property twenty-nine years ago. It was cancelled from Indian ownership by a Presidential Order, twenty-six years ago.

The tax yield of the privately (white) owned land in the disputed area, plus the tax yield of the white-owned live stock in the area, totals four thousand dollars a year, paid to four counties.

The Federal expenditure in the area, for schools and roads alone, totals nearly two hundred thousand a year. The Federal expenditure ("in lieu of taxes") would be greatly increased if the area were made Indian country.

A few commercial live stock interests, on the one side. They have intruded into the Navajo-populated and formerly Navajo-owned area. Nearly ten thousand subsistence agriculturists on the other side - Indians.

Which shall prevail? This is the Navajo Boundary Bill question.

II.

Two Pueblo Indian witnesses, responding to leading questions by a white attorney, leveled complaints against the Indian Service. The Indians were from Taos Pueblo. Most of the complaints had previously been filed in newspaper statements by an intermarried white woman. The complaints and the answers are here given.

Complaint One. That the Commissioner had coerced, or sought to coerce, the Taos tribal officers in a matter connected with an internal conflict between a minority of Native American Church members and a majority of opponents of that Church. Answer: The Commissioner's interference had consisted of earnest advice given both parties to settle their differences within the Pueblo and not to take the case either to the Secretary of the Interior or to the Federal Court.

Complaint Two. That due to the modernized recreational

and disciplinary system of the Santa Fe Boarding School, an unstated number of Pueblo girls had become pregnant at the school during the past year. Answer: That no girls had become pregnant at the school; four had become pregnant during the school vacation at their homes or home neighborhoods.

Complaint Three: That the Commissioner had issued an order permitting the children to speak in their native languages on the school grounds and (in boarding schools) during the school term. Answer: True; and the order will stand.

Complaint Four: That Government money had not been used to put or keep in repair certain machinery which had been given outright to the Pueblo by the Government. Answer: The Pueblo had ample funds in its own treasury to repair and maintain the machinery; the Government had never undertaken to maintain it.

Complaint Five. Reimbursable loans for seed had not been made available to the Pueblo last year. Answer: The Pueblo had knowingly used up, for the purchase of farm machinery, all of its reimbursable allotment and then a good deal more, and hence was without an allotment to buy seed.

Complaint Six. The Blue Lake area of the national forest, devoted to Indian use by an Act of Congress, was overgrazed by white-owned stock. Answer: The white-owned stock was not grazed in the area in question but in a contiguous area which the Interior Department is seeking to devote to Pueblo use, through legislation that has not yet been enacted.

Complaint Seven. That the full equipment and full teaching staff had not been supplied when the new PWA school building was opened for service last autumn. Answer: True for this and for nearly all the new schools. PWA built the buildings; it did not supply the funds to equip and staff them. Congressional appropriations and Civil Service supply of teachers lagged, in varying degrees, weeks, sometimes months, behind the completion of PWA construction.

Complaint Eight. At the school, the children work in the school garden. They ought to be in classrooms all the time. Answer: The children do operate the school garden; they ought to.

Such were the complaints. They actually were what is stated above. Solemnly drawn out by the white attorney. They were leveled principally against the Superintendent, Dr. S. D. Aberle. These evils took place, the lawyer and the witness stated or implied, because Dr. Aberle is a woman. For, added the chief witness, could any woman, though the most capable in the world, possibly do the job right? The irony seemed to be wholly unconscious. Witnesses and lawyer were merely repeating (except in the errors of Complaint One, recited above) complaints identical with these which for four months an intermarried white woman has been voicing in the newspapers and in letters. The white lawyer was her lawyer, though presumably authorized to appear in the Pueblo's behalf.

Ten minutes was given to the Department for rejoinder. It

was enough. The printed hearings will contain the records of two meetings of the Council of All the New Mexico Pueblos (nineteen Pueblos) where the Indians have supplied their own reply to the complainants. Pueblo support of Superintendent Aberle and of present policies has been overwhelming, and continues so.

III.

The Committee showed to the Indians and to all witnesses unflinching courtesy. It was attentive, discriminating, tireless. Its hearings did immediate good, and they have (as I believe all parties were agreed) advanced decisively the solution of the Navajo boundary question.

IV.

I went from the hearings today (August 21) into a different atmosphere. The Zuni Tribe had gathered for the dedication of the new PWA Zuni Hospital. It is a building which will stand comparison with any hospital in the United States. A Christian priest gave the invocation. A Zuni "medicine man" cut the ribbon which tied the door, and opened the hospital. Zuni women sang, low and sweet, the ancient songs. Zuni men and women danced an ancient ceremonial dance. Long life for Zuni - for its people and for its rich profound civilization, its glorious arts, its wise use of the soil, the water and the grass.

I thought wistfully of Mrs. Anna Wilmarth Ickes, whose interest in Zuni and the Zuni health service had been profound. And then, watching the happy and impersonal Indians, I saw life and fate

as they see it. The flow through the generations, the ages, of that will, that joy which is the union of earth and man, and which cares little about the ceasing of individual life; and individual life need not care about the ceasing, because it will go on in the everlasting, joyous flow.

JOHN COLLIER

Commissioner of Indian Affairs

* * * * *

THE INDIAN ARTS AND CRAFTS BOARD

The Indian Arts and Crafts Board, authorized in August, 1935, has recently been organized and is now beginning its activity. Its personnel consists of the following: John Collier, Commissioner of Indian Affairs; E. K. Burlew, Administrative Assistant to the Secretary of the Interior; W. W. Beatty, Director of Indian Education; A. V. Kidder of the Carnegie Institution of Washington and Lorenzo Hubbell of Oraibi, Arizona. The Board has appointed L. C. West of Cleveland as General Manager. A permanent chairman has not yet been chosen.

The function of the Board is to promote the economic welfare of the Indian tribes through the development of their handiwork or manufactures. It has the following powers:

(1) To undertake market research to determine the best opportunity for the sale of various products of Indian handiwork or manufacture; (2) To engage in technical research looking toward improvement of Indian products; (3) To engage in experimentation directly or through selected agencies; (4) To correlate and encourage the various governmental and private agencies engaged in similar activities; (5) To assist the management of operating groups in the furtherance of specific projects; (6) To assist appropriate agencies in obtaining loans to aid in the production and sale of Indian products; (7) To create government trade marks of genuineness and quality for Indian products, and to establish standards for the use thereof; (8) To license the use of such trade marks.

The Board has no power to act as a dealer itself.



Photograph by H. Armstrong Roberts

NINETY-SEVEN HUNDRED AGAINST NINE

Senate Committee Navajo Boundary Extension Hearings Bring Out Basic Conflict

By Allan G. Harper, Field Representative

The outstanding feature of the Senate Subcommittee hearings on the Navajo boundary extension bill in New Mexico was the clear-cut, unrefuted demonstration of the fact that the relief measure has been blocked because of the basic conflict between the vital human needs of 9,700 resident Navajos and the commercial interests of less than ten non-resident stockmen.

The same basic conflict between the thousands of small Indian and Spanish-American farmers and subsistence ranchers in the Rio Grande watershed on the one hand and the commercial owners of large numbers of live stock on the other hand, was brought out vividly by Commissioner Collier at the hearing in Santa Fe. He briefly sketched the century-old settlement of the Rio Grande area by thousands of colonists from below the Mexican line; the ability of the land to support both the Pueblo Indian and the Spanish-American rural population in reasonable comfort on the subsistence level; the advent of commercial live stock operations based on the free grass of the public range hitherto used only by the non-commercial resident population; the disastrous overgrazing and the resulting erosion and floods which destroyed large parts of the irrigated area, thus taking from the rural population of small farmers a portion of both their farming and their grazing lands, leaving both the Indians and the Spanish-American population in a critical position. From his statement it appeared that the resources of land and especially of water are insufficient to support at the same time a relatively dense population of small non-commercial farmers and permit intensive commercial exploitation of the depleted range. He also announced that in the assignment for use of the submarginal lands bought for the Pueblo Indians in the Rio Grande Valley due consideration would be given the great needs of the Spanish-American population adjacent to the purchased areas.

The members of the Senate subcommittee on Indian Affairs, Senators Thomas and Frazier, obtained a partial view of the Navajo country to the east and outside of the present Navajo reservation which it is proposed to add to the reservation. A rapid inspection of part of this area made plain to them the grim nature of the struggle for the control of the scant grass by 9,700 Navajos on the one hand, and a very small number of commercial live stock operators on the other hand.

On this high remote tableland with its once grass-covered plains, its tawny or gray hills tufted with pinon and juniper trees, its carved canyons splashed with bold colors, the Navajos had farmed, tended their flocks, hunted and raided long before the United States took the mesa land from New Mexico.

They returned to it after Kit Carson had starved the Navajos into submission and the Army had kept them in captivity at Fort Sumner until 1868. Some 8,000 of them returned to their own country to go in for sheep raising. Exclusive possession of this, their country, was given piecemeal, as the intrusion of white stockmen, frantically hunting free grass, made the enlargement of the small original treaty reservation necessary.

The last of these additions was made by President Theodore Roosevelt in 1907. It covered several million acres in New Mexico adjoining the reservation to the east, a territory which according to the testimony at the hearings, had been occupied, farmed and grazed by resident Navajos for at least a century. But the herds of white stockmen had already obtained a foothold in this territory.

On the public domain the resident Navajos had no more legal rights than a rabbit. The grass and browse in front of their hogans belonged to the first comer. The waterholes and springs upon which their flocks depended for their very lives, could be covered and entries fenced off any moment.

To protect these Navajos against complete dispossession, the Indian Office proceeded to make homestead, and later, grazing-homestead entries for them so that each family might at least have legal title to some of the land its members had been using. Almost 4,000 of these Indian homestead entries were made, largely through the efforts of Superintendent Stacher who had built the Crown Point Agency and developed the Eastern Navajo jurisdiction which fought for the interests of the non-reservation Navajos. No allotments or homestead entries have been made for a number of years, a fact which explains the discrepancy between the number of homesteads, around 3,900 and the present number of Navajos outside of the reservation proper, 9,700.

Twenty-five years ago, so the testimony showed, the Navajos to the east of the reservation boundary owned 120,000 sheep and goats which, with their farming operations, sufficed to supply the Indians' simple needs. But not for long. The unlettered could not keep up the competitive pace set by the shrewd white sheepmen, some of whom also controlled trading posts in the eastern Navajo area. These operators bought out white homesteaders, leased the checkerboarded railroad land for cash while the trading posts paid for Navajo lambs, wool and blankets with "tin money" good only at one store, and gradually squeezed the Navajo flocks off the public domain, even forcing the Indians, so it was testified, off their own allotments.

So the Navajo flocks declined. The decline became noticeable twenty years ago when high war prices for wool and mutton lured the off-reservation Navajos into the sale of part of their breeding stock. On the reservation the government prohibited the purchase of breeding stock by the traders. Hard winters came, taking heavy toll from the Navajo herds which used the same range all year whereas the white operators, summering their flocks in the

Colorado National Forests, were able to preserve some of the Navajo grass for winter use only and escaped with much lighter losses.

The government could not control the liquor traffic in the outside area. The law prohibiting the importation of intoxicants into Indian reservations did not apply to this territory. A truckload of liquor could be brought into this territory with its 97 per cent Indian population, according to the testimony of Commissioner Collier, its presence advertised with banners and a brass band, and the Indian Office was unable to do anything about it unless its officers could obtain evidence of an actual sale of liquor to a specific Indian.

Under these circumstances the decline of the Navajo flocks, the reduction of the Navajo income, the increase in the number of white-owned sheep using the Navajo range, the depletion of the range through overgrazing and the disastrous acceleration of destructive erosion moved forward at an ever faster rate, threatening the total destruction of the range unless checked in time.

That check the government could not effectively apply on this area. Indian lands, comprising half the total area, were checkerboarded with railroad, state, public domain and fee-patented lands. In this welter of different titles and ownerships it was not possible to block out areas for comprehensive protective treatment, water development for the Indians was difficult and often ineffective, proper range-management methods for the preservation of soil and grass could not be introduced.

These conditions, and the resulting extreme impoverishment of the 9,700 resident Navajos were described by numerous witnesses. No one challenged these facts. And there was unanimous agreement that for the benefit of both whites and Indians, something should be done immediately to bring order out of chaos.

The remedy offered by the Indian Office since 1931 - and successfully applied to a similar Navajo area in Arizona in 1934 - proposed to enlarge the present Navajo reservation by extending its boundary around that part of the area inhabited by almost 90 per cent of the Navajos on the outside. Half of this area, according to the witnesses, is already owned by the Navajos through their homestead entries; 17 per cent more is owned by the federal government as public domain. Railroad land, state land and private land, the latter constituting less than 7 per cent of the total, make up the balance. It was proposed to acquire the railroad and private lands by exchange or by purchase with the Navajos' own tribal funds, and to place the consolidated area under effective range management with adequate erosion control measures to save the soil, the water and the grass.

The total white population in this area was given as 280, with 200 in the town of Thoreau, paralleling the highway and the railroad at the southern edge of the territory. Thoreau made no objection to the boundary extension. Many of the 80 white residents inside the extension area are engaged in trading

with the Navajos. From them no opposition came. On the contrary one of the independent traders of the area, James Counselor, described the condition of the Navajos in words that made a deep impression and urged the Senators, including Senators Chavez and Hatch who sat with the Committee, to include the entire area inhabited predominantly by Navajos within the extension.

James M. Stewart, Director of the Land Division, placed in the record a series of endorsements of the original extension bill by the county commissioners of the affected four counties, by chambers of commerce, live stock associations and individual operators, together with a number of withdrawals of these endorsements. One of the witnesses, a cattleman who had withdrawn his endorsement, testified that the original endorsement was given almost two years ago when the prices of cattle, wool and sheep were low and he was anxious to sell because he was losing money, but now prices were better and he would not know where to go with his stock as the value of ranch land had risen materially the last year.

At the first day's hearing the question of the loss of tax revenues to the four affected counties through the withdrawal of privately owned now taxable land and live stock was brought up. Abstracts from the tax rolls of the four counties were entered in evidence. From these abstracts it appeared that the total amount of taxes actually collected on land and live stock in the extension area during 1935 reached only \$3,416. McKinley County, with Gallup as the county seat, collected \$1,950 in taxes and spent about \$15,000 on schools and roads in the extension area. Since the largest part of this county expenditure will be unnecessary if the area is added to the Navajo Reservation and the Indian Office enlarges its expenditures for roads and schools, already many times greater than those of the county, McKinley County would profit financially through this extension.

Two of the counties, it was shown, derived a net revenue from the extension area. They collected \$1,400 annually from the area, but did not spend a cent in the territory.

Commissioner Collier during the first day's session offered to point out ways and means by which the counties could greatly increase their tax income. He referred to the fact that the inspection records of the Bureau of Animal Industry show the presence of, in one instance, 16,600 head of sheep on the range in one of the counties, whereas the abstract of the tax rolls showed that the owner of the sheep paid taxes in that county on only 102 sheep. Commissioner Collier offered to multiply such instances of apparent underassessments, but the spokesman for the stock interests asked that discussion of the tax question be postponed until the Santa Fe hearing when complete data as to tax losses, assessments and tax payments would be supplied from official sources. No specific tax and assessment information was supplied at the Santa Fe hearings, except that the general allegation of actual and potential losses was repeated.

During the course of the hearing at Farmington, Commissioner Collier frankly acknowledged to the Committee that the purchase of 7,000 goats as a

measure of reducing overgrazing in the extension area had been a mistake as every Navajo goat removed from the area had been replaced at once by equivalent white-owned stock, thus maintaining the excess pressure on the depleted range. But he justified the preceding sheep relief purchases in the area on the ground that there had been practically unanimous agreement of all parties to the immediate passage of the then pending boundary extension bill, that there was no opposition to its passage in Congress, that such passage was expected and would enable the Indian Service to take immediate steps in the extension area to control erosion, check overgrazing and extend the necessary work relief. It was only after the death of Senator Cutting and the appointment of Senator Chavez that open opposition to the passage of the bill developed. But he also stated that the total federal stock purchases in the extension area accounted for only 15 per cent of the decline in numbers of live stock since 1933 and that the sum of \$40,000 was now available to reestablish some of the outside Navajos in the sheep business.

It was suggested by the committee members that, inasmuch as the testimony showed the need of speedy remedial action through an extension of the boundary, the various interests get together in New Mexico prior to the opening of the next Congress, agree upon the area to be included in the reservation, determine the conditions of the inclusion and draft a bill containing the agreed-upon provisions for introduction early in January.

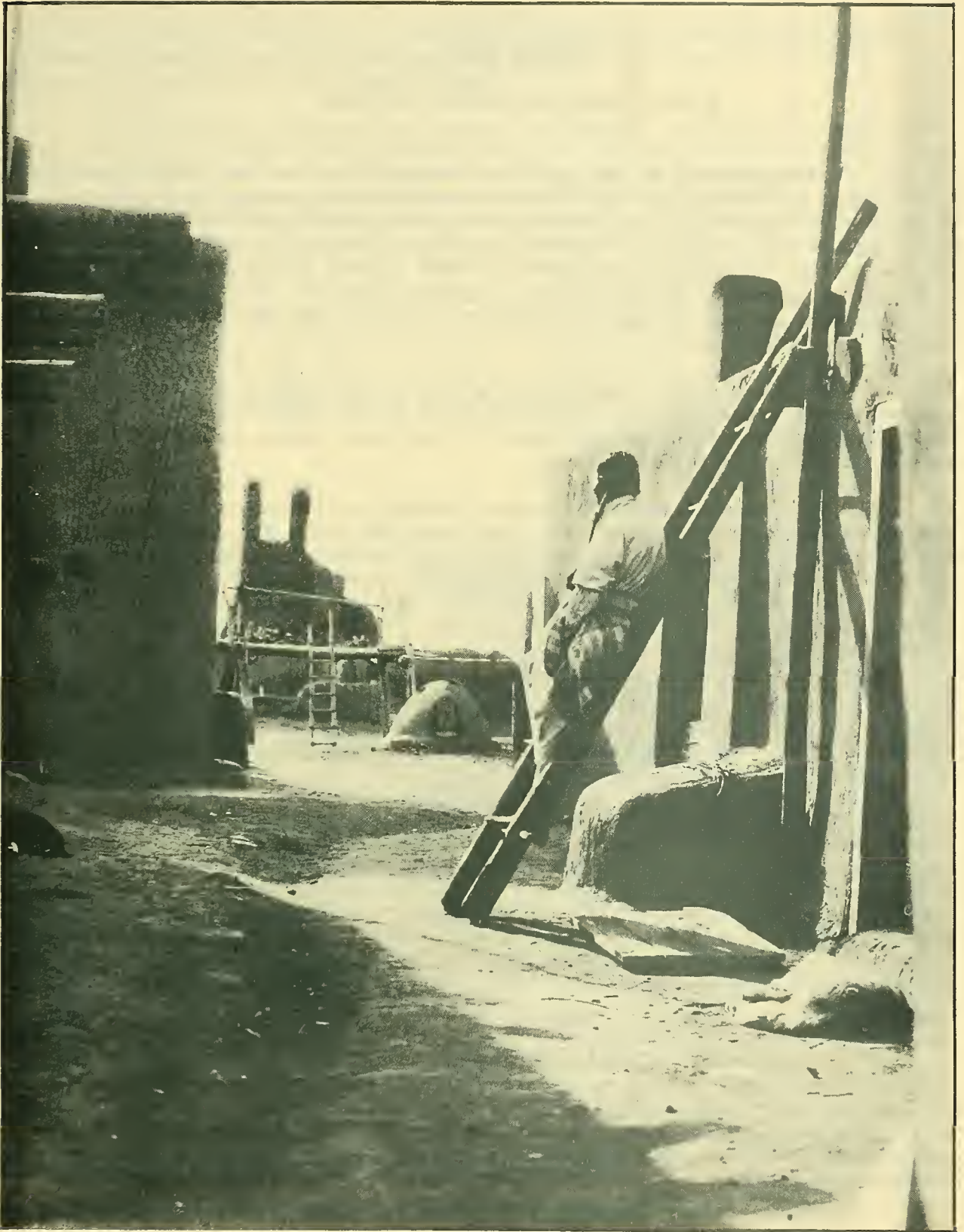
Again and again the chairman of the committee, Senator Thomas, emphasized the apparent need for an early remedy through an extension of the boundary and urged all parties to come to an agreement on the terms of the legislation.

In view of the fact that the human needs, the desperate plight of 9,700 Navajos is in conflict merely with the commercial interests of less than ten non-resident stockmen, it is probable that Congress will give remedial legislation the right-of-way.

A series of complaints by two Taos Pueblo Indians against various administrative actions was answered by Commissioner Collier in ten minutes. The committee considered it unnecessary to hear witnesses in reply to the Taos complaints. Senator Chavez made use of the Taos complaints to tell the Taos delegation and the audience that they were in a far better economic condition, received more help and were given a variety of federal services in education, hospitalization, agricultural extension and assistance that were not available to the non-Indian population of New Mexico.

* * * *

The Cover Page Picture: The picture on the cover of this issue of INDIANS AT WORK is that of an Acoma Pueblo Indian near San Fidel, New Mexico. This photograph was taken by Frashers, Pomona, California.



Photograph by H. Armstrong Roberts

"LIFE IS ART"

By John Sloan and Oliver La Farge

The embodiment of the Indian's conception of use and beauty in the materials of his daily life is art in its widest sense; not up on a shelf to be regarded occasionally, but adorning and giving meaning to everything about him. Just so his religion permeates each least commonplace of his universe, and the search for harmony and success within himself and within the tribe, is voiced in dances by forms, designs, rhythms, symbols, until one is led from them back to his art again, realizing that they are all beats of one pulse.

The modern Indian artist may not be as orthodox as his ancestors, he may even have embraced the Christian faith or be, like most white men, religionless, but he still derives from the traditional forms and takes his strength from his ancestral pattern.

It is only recently that white teachers of Indian children have stopped trying to educate them away from their own art. For decades we tried, and in some cases unfortunately succeeded, in instructing Indians to forget their own culture and to force themselves into ours. Indian artists were given reproductions of masterpieces, Currier and Ives prints, or mere advertisements, and told that these only were art. We tried to mechanize their crafts and induce them to use factory mass production instead of their own individual tools and technique. No factory blanket could compare to one made with infinite patience and care by a Navajo woman from wool her husband sheared, dyed by her own dyes, woven on a primitive loom beside her desert hogan. To the extent that white teachers succeeded in persuading the Indians to abandon their own methods, their art deteriorated.

To most Indians, the income to be earned from their industries is vitally important. For instance, the Pueblo of San Ildefonso was until recently in a bad way, having lost much of its land and water rights. The people were depressed and discouraged; all were poverty-stricken. They revived their almost forgotten pottery making and their younger artists, encouraged by Dr. Edgar L. Hewett of the Museum of New Mexico, began to develop their water colors. Having a good market in Santa Fe, they were able to earn the additional money so that today the pueblo is advancing and increasing in numbers.

The American Indian is willing and competent, given a market, to earn a congenial and lucrative living through his art, with benefit to himself and to the country. Even today in the teeth of ignorance and neglect, he is keeping his talents alive and developing them. The preservation of these and related phases of his cultural life, ceremonies, dances and music, are necessary to his mental and emotional well being, for they afford him means

of self-expression; with them to give him integrity and through them, he can become increasingly self-supporting, self-reliant, self-respecting and a valuable contributor to our modern scene.

The Indian Bureau of the Federal Government, recognizing these facts, is now encouraging the Indians to continue to create and to develop their own arts. The old, ignorant attitude of condemning anything Indian as "uncivilized" is giving way to sympathetic understanding, and even instruction in the schools by older tribal artists. At the same time, scientists and artists are painfully aware of the danger of losing what remains of the esthetic heritage of the Indians.

They realize that if the arts are to survive, they can do so only as any other arts do, through the support of discriminating buyers anxious to possess the creations for their own sakes. Reprinted from Introduction to American Indian Art. Exposition of Indian Tribal Arts, Inc. * * *



ZUNI SILVERSMITHING

By Kenneth M. Chapman

Acting Director of the Laboratory of Anthropology, Santa Fe, New Mexico.



Zuni Silversmith With Some
Of Her Own Work

Silversmithing is a craft so definitely associated with the Navajo in the minds of tourists who flock through the southwest that few realize that it has ever thrived among other Indian tribes. The Iroquois of the east, the Haida of British Columbia and many other tribal groups between have acquired considerable skill and have shown remarkable taste in the use of the white metal.

Silver was unknown in pre-Columbian times to the Indians north of Mexico, who had no use of metals, except for copper obtained in the form of nuggets and requiring only to be heated and beaten into form. Silver was introduced into the southwest by the Spaniards and later, with the development of fabulously rich mines of Mexico, much of the metal found its way through trade into the northern provinces. From there native Mexican silversmiths worked it into form for tableware, household utensils and ornaments, crucifixes, rosaries and jewelry. Little by little their simple, massive forms of jewelry began to reach the peaceable Pueblo Indians as well as the roving tribes around them until finally, after the coming of the Gringos in 1846, silversmithing was taken up as a craft by some of the young men in the pueblos. As helpers about the forges of blacksmiths and silversmiths, they had

learned the simple principles of smelting and they now set about to build by hand and largely of native materials, their primitive forges, bellows, blow pipes and tools.

By 1879, when ethnologists from the Smithsonian Institution first reached Zuni, jewelry making was a well established craft, engaging at least the part time activities of a number of skilled workers who could turn a hand to anything from shoeing a government mule or welding a wagon tire to the

fashioning of earrings or bracelets for trade with their less skilled neighbors, or with the wandering Navajo. Some copper was used in early times by the Zuni but copper jewelry was soon to disappear as the finer metal came into general use. Mexican coins "Pesos" supplied the silver, its purity a delight to the eye of the Indians who made great sacrifice to possess themselves of the simple but well designed objects of the glistening white metal. The coins, melted in little crucibles of native pottery clay, poured into moulds and then beaten into shape on primitive anvils, were fashioned into all the forms still treasured by the pueblo people.

The men indulged themselves in bracelets, large "conchos" for use on belts and smaller fluted ones for buttons. Bridles, adorned or even covered solidly with silver plates, were also in evidence; luxuries later to be monopolized by their Navajo neighbors. Necklaces, brooches, rings and fancifully formed eardrops were specially prized by the women. The necklaces of large, hollow silver beads, interspersed with the native "squash blossom" design or even the Christian cross, gave evidence of remarkable skill. But more peculiar to the Zuni were the women's ear ornaments and brooches, fashioned of flat sheets of silver and bordered by a flange or by wires or flat strips of silver, deftly bent into pleasing curves and soldered to the solid piece.

Suspended from the larger piece by rings of wire were little dangling bits cut into rectangular, diamond or triangular shapes, that flashed with every movement of the head. Rows and clusters of minute droplets of silver were also used with good effect. Only rarely did the Zuni craftsmen turn their attention to stamped designs produced by punching flat surfaces with handmade steel dies, or to cast silver made by pouring the molten metal into hand cut moulds of stone.

Then by degrees came a great change in the character of the Zuni output. Since prehistoric times turquoise, the most precious stone known to the pueblos, had been worn sparingly in the form of minute beads or in larger pieces suspended as pendants from necklaces of shell beads, or in single pieces as ear bobs. As the semi-precious stone became more plentiful through trade and the opening of new mines, the Zuni silversmiths, somewhere back in the nineties, bethought themselves of mounting odd bits of the blue stones on their silver. In this they were not alone, for the Navajo long since had shrewdly adopted the silver craft as their own and both tribes were soon skilled in all the devices needed in the setting and mounting of turquoise.

The effect was pleasing not only to the Indians themselves, but also to the tourists who by this time had begun to rove over the entire southwest. From then on the demand for Indian handmade turquoise jewelry grew to an amazing volume. The Zuni continued to make the old forms, but now studded them with turquoise, first singly and then in groups. The distinguishing mark of the Zuni product of the period beginning in the late 90's is the use of many small bits of turquoise in clusters, whereas the Navajo preferred the effect of single large stones or the combination of small and large sets in one design.

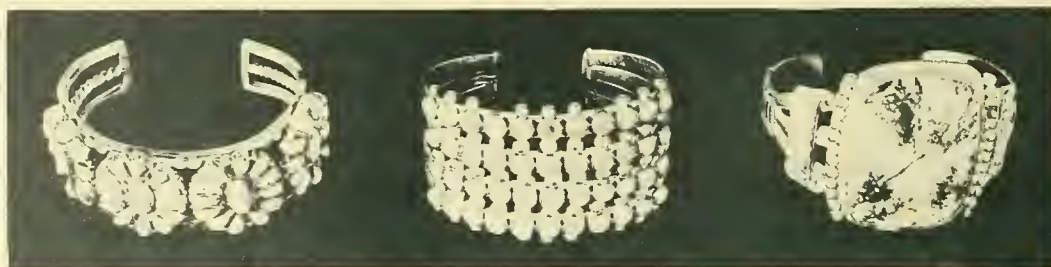
As the demand grew, the trader stepped into the picture and provided a steadier outlet for the product of increasing numbers of workers. By this time the ear ornaments, brooches and necklaces of earlier days were less in favor, but the traders were clamoring for more and yet more bracelets and rings in styles to meet the growing demands of tourists. If the resulting styles were less Zuni-esque they provided what the tourist craved - bright turquoise mounted in a minimum of metal, often merely a frame of silver wires bent into fantastic form to hold the plate of clustered stones in place.

Then came keen competition from manufacturing jewelers in various southwestern towns who employed Indian youths to turn out by factory methods the same patterns by labor saving devices that cut the cost in half. Silver-smithing had always been a man's craft, but in a few Zuni families the men began to depend on the help of their wives and sisters and daughters for mounting the bits of hand ground turquoise into sets of rings and bracelets. Their deft hands were soon trained to the delicate work and in increasing numbers others, home from the boarding schools, took up the fascinating and profitable work.

Occasionally young men, trained in the factory methods of their employers in the cities, have come back to Zuni with ready rolled silver and other labor saving accessories to carry on their work in their own homes. But usually their product has not been acceptable to those who buy Zuni silver in quantities and they have found it necessary to market their product among themselves or in the railroad towns. In spite of such competition the most reliable and industrious of the Zuni craftsmen still hold to the slower and more primitive handmade methods of their elders.

A visit to their homes is a revelation of industry and patience. Silver making is usually a family affair. For this the general living room, unusually large as pueblo rooms go, provides a satisfactory place for the long work bench set against a convenient window.

Here two or three members of the family are busy, each with his or her part of the many processes. In melting and soldering, even the most conservative smiths make one inevitable concession to modern methods. The gasoline blow torch takes the place of the primitive forge, bellows and blow pipe. But silver wire is still drawn from hand beaten rods, pulled by hand methods through a steel plate.



New Bracelets By Zuni Silversmiths

Silver, beaten into thin sheets, is cut into fine strips which in turn are cut to length and bent into the most minute "bezels" or frames in which the bits of polished turquoise are to be set. The small left-over pieces, cut into squares of uniform size, are spread upon a flat slab of charcoal and melted by the blow torch until each draws itself up into a tiny globular bead. These, used in rows about a turquoise set, give delicate detail to even the simplest design. When the bezels have been shaped to fit each turquoise they are held in place by fine wires or by a paste, over the required solder placed on the bracelet or other object which they are to adorn. The Zuni craftsman then applies the intense heat of the blow torch until each piece is fused to the larger mass of silver. Files, emery paper, and polishing devices of buckskin and other materials are then used in turn to produce the finished product.

The traders require a certain amount of jewelry set with larger stones, so that all sizes of turquoise are used, from the tiniest up to thin, flat pieces two or more inches in diameter, of clear stones or of those flecked with the brownish matrix, which is not without its admirers.

While some of the family are busy with the silver, others are grinding the turquoise into shape. Here again, another modern convenience is in evidence, for the old sandstone slabs have been discarded in favor of the modern geared grindstone. Clamped to the work table, it enables the workers to turn out a steady output with comparative ease. Each piece of sky blue turquoise is cemented with sealing wax to the flat end of a short stick, with this the worker can hold it against the revolving grindstone at any angle and can later polish it before removing it from the stick.

There are still a dozen or more families at Zuni who derive their principal income from silversmithing, while in all perhaps a hundred individuals in the past few years have given at least part time to the work.

Several women have become so expert in every stage of the craft, from the melting and hammering of the silver to the grinding and setting of the turquoise, that they now produce some of the finest work in the pueblo. Other crafts, beadwork and even the making of hand-tailored woolen ties, hand bags and purses, have recently diverted the attention of some of the younger women from silver work, but the time honored craft bids fair to last as one of the most important of the many developed by the Zuni.

It will prosper even more if the more intelligent of our increasing tourist public can only be led to realize the infinite patience and skill that attend every process in Zuni silver making and the remarkable taste which the workers display in keeping their product distinctly Indian in character, yet adaptable for use throughout the land. Photos - Courtesy of Laboratory of Anthropology - Santa Fe, New Mexico.

INDIAN PARTICIPATION IN THE GREAT LAKES EXPOSITION

By Cleora C. Helbing, Associate Supervisor of Home Economics

The Great Lakes Exposition was conceived to celebrate the one hundredth anniversary of Cleveland and was dedicated to the advancement of the Art, Science, Industry and Commerce of the Great Lakes Area. In response to a request made by Mr. G. C. Dickens, Director of Exhibits, Interior Department and also Assistant United States Commissioner to the Office of Indian Affairs, the Indians of the Great Lakes Area were asked to partake in the celebration by sending an exhibit of their arts and crafts.

Before the exhibits were collected there were several who questioned what the Indians of this area would send, since they were accustomed to thinking in terms of the Indians of the Southwest. In a brief period of two weeks the superintendents and their co-workers in the jurisdictions of the Great Lakes Area assembled a most beautiful collection of representative arts and crafts. Exhibits of birch bark, tanning, weaving, basketry, painting, carved pipestone, beading, authentic costumes, utensils, musical instruments and weapons were assembled in such a way as to create much interest to the visitors of the exposition. Visitors came not once, but often returned with friends. All visitors commented on the beauty, the exquisite workmanship, the artistic skill - all of which are the heritage of the Indians of this area as well as of the Indians of other sections.

An Indian man was selected to attend and explain the exhibit to visitors. Twenty-eight Indian students came also as guests to entertain with authentic dances and sign language interpretations. Those who had either the privilege of helping to assemble the exhibit or to see it as a visitor were inspired with one thought - that the Indians of the Great Lakes Area are craftsmen and artists of the highest type and their exhibits contributed much to the educational program of this Great Exposition dedicated so wisely to Art, Science, Industry and Commerce of the Great Lakes Area.



Indian Exhibit At The Great Lakes Exposition in Cleveland, Ohio.

DISASTER AT FORT BELKNAP, MONTANA

By Robert Marshall

Director of Forestry and Grazing

Seldom, since man started fighting forest fires in America, has the fire hazard been so critical as during the past month in all forest lands from the Lake States to the Continental Divide. The extraordinary drought made the forests as dry as tinder at a season when the Lake States forests are usually perfectly safe and the eastern Rocky Mountain forests have only a low hazard. One of the forest areas which had been considered to have a relatively low fire hazard was the Little Rocky Mountains which are divided almost equally between the Fort Belknap Indian Reservation and the Lewis and Clark National Forest. Although the older Indians state that most of this area is burned over about once every 50 years, it had not had any serious fire at least during the past quarter century.

On July 25, some white campers in Lodgepole Canyon did not entirely extinguish a campfire. Fanned by a high wind, it soon started racing wildly through the forest although men were fighting it shortly after it broke out. On Sunday it burned through a dense thicket of lodgepole pine so fiercely that two courageous geologists who were fighting it were trapped by a sudden shift of wind and burned to death. This fire was finally brought under control on the fourth day of its burning.

Meanwhile, one of the mining companies, in order to protect its property, had put on an emergency lookout. On July 29, this man lay down to relax after lunch and fell asleep while smoking a cigarette. The cigarette dropped out of his hand and burned up the tent and while the man escaped, the fire he started was quickly fanned by a 40-mile wind into an uncontrollable conflagration. It traveled 13 miles airline in 9 hours and no one could even get close to it.

The next day was also what fire fighters would call a blow-up day. The humidity was down to a few per cent and the wind was still blowing heavily. Only on the southeastern end of the fire where John Lamey and a crew of hardy Indians fought desperately for 15 hours was there any effective control. The next morning by 4 o'clock the fire crews of both the Indian Service and the Forest Service were on their way to save what could yet be saved. There were by this time 350 Forest Service fire fighters and 250 Indian Service fire fighters. I went up with one crew composed almost entirely of Indians. Don Field and John McGrath led the crews into action and they certainly fought their battle with skillful tactics.

The Indians behind them jumped into the fray with great energy and amazing stamina and worked at top speed from five in the morning until after five at night. They followed this up the next day with almost as hard fighting and as a result, an important pocket of timber was saved for the Indians. When the fire was roaring fiercely through the crowns of the trees and the

smoke was so thick you had to choke a little, these Indian men and boys worked on cheerfully and without getting rattled in the slightest degree.

I went out on the fire line one night with a small crew of six Indians under Newton Strike. He had asked for a small crew of men because he felt he could save a substantial area by night fighting. This crew of six men attacked the fire with great vigor; sometimes shoveling dirt on the edge to choke it out, sometimes beating it out with brush and once rushing into a most perilous pocket of dense underbrush at the base of a steep ledge when the shifting wind necessitated a quick attack at this point. They laughed and joked as they shoveled dirt to choke out the raging flames.

As a result of this night's work they probably saved at least a quarter section of fine yellow pine reproduction which will some day be a blessing to their children.

One afternoon I drove into the fire camp at the eastern end of the fire. It had been moved about three hours before, but so efficiently had this been done under the supervision of Dick King, a Gros Ventre Indian and permanent forest guard, that John Croff, the Indian cook, already had a delicious meal ready for more than a hundred people. Latrines and garbage pits had been dug, tents erected, a corral built and Dick had even put up signs showing where cars should be parked and where the men should spread their blankets.

In the end the fire probably burned 70 per cent of the merchantable timber in these mountains, 10 inches in diameter and upward. The result of this fire will be a handicap not only in the economic and recreational life of the Assinaboine and Gros Ventre Indians of the Fort Belknap Agency for many years to come, but it will also adversely affect the white people of northeastern Montana who came sometimes for several hundred miles to enjoy this easternmost outpost of timber in Montana. All of this was caused by the carelessness of two men.

Nevertheless, with all the tragedy both to life and resource, this fire did bring out splendid devotion, heroism and ability among both the Indians and the white men who participated on this fire. I cannot list all those who deserve a citation for what they did, but I would like to mention a few men whose splendid work was conspicuous: John Lamey, Forest Supervisor, who worked ceaselessly and competently and saved a substantial block of pine on the east end of the fire; Ed Croff, Indian Fire Guard, worked 72 consecutive hours and then after a little rest came back for more; Paul Blair, Dick Clark, Ansel McConnell, John Adams, Jimmy Wells and Frank Corcoran, E. C. W. men, averaged about 18 hours of high speed and most effective work per day for a whole week until the fire was brought under control. Warren MacMillan, former Forest Supervisor on this reservation, returned for this fire and Messrs. Patrie, Caywood, Gover and Williamson, who came on from the Pacific Northwest Region to work 18 hours a day, all helped materially in keeping the entire timber tract from being destroyed.

Superintendent Elliott did everything conceivable to get the entire organization to run smoothly and deserves a great deal of credit for his intelligent coordination of all the available man power and supplies.

INTRODUCTION OF ARTS AND CRAFTS AT CHILOCCO

By Josephine Myers, Comanche Indian, Teacher Arts and Crafts



A Two-Heddle Loom For Rag Rug Weaving - Chilocco School, Oklahoma.

Arts and crafts were introduced at the Chilocco Indian School on November 5, 1934. The aims of the course are as follows: 1. To develop appreciation of Indian art; 2. To revive and preserve the old Indian handicrafts, and to teach tribal crafts as much as possible; 3. To develop interest, technique, skill and a high standard of workmanship in making articles for the home or for sale toward earning a living; 4. To utilize discarded clothing and natural resources, such as clay and native dyes; 5. To suggest a worthy use of leisure time.

When the classes were organized only a limited supply of materials were on hand, but with the help of the various departments work progressed rapidly. Looms of different types and the simplest of spinning wheels were made. One large foot power loom was purchased. With this as a sample, five more were made (the metal parts were purchased.) Twenty-four small frame looms which were similar to the Navajo type were made. Twelve head looms were added to others which had been sent from a Veterans' Bureau. The handmade looms, by the way, work as well as the one which was purchased.

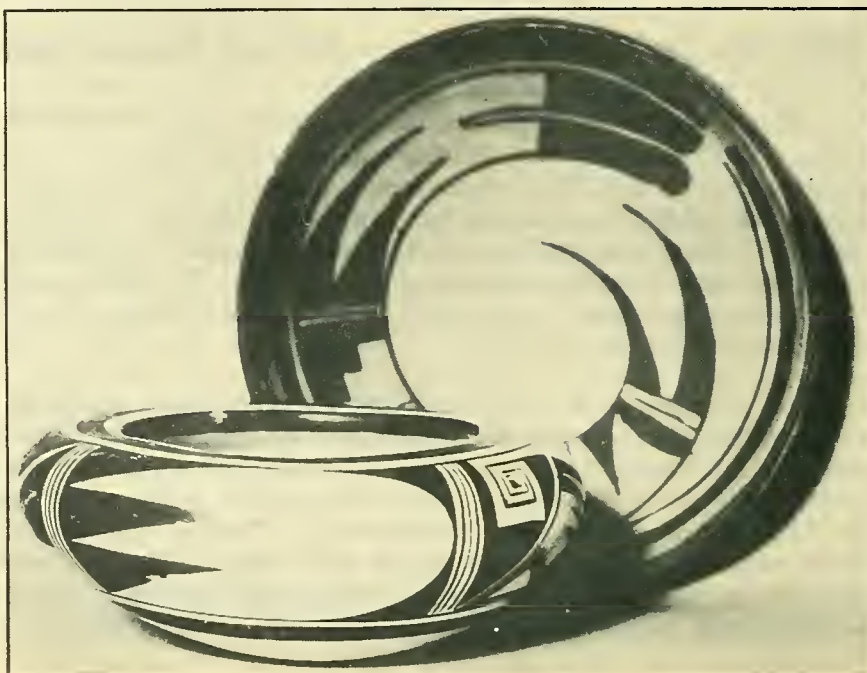
While the looms and spinning wheels were being made, more beads and yarn were ordered, discarded clothing was collected, native dyes were dried and stored for future use. Later, raw wool for spinning, clay for pottery, and willows and corn husks for basketry were added to the materials. This course is offered to all ninth grade girls as a findings course. Those who have an aptitude for the course are encouraged to continue. The projects taught in this grade are a simple type of pottery and woven beadwork.

The tenth grade consists of those selected from the ninth grade which is about one-half and any new tenth grade girls who have not had arts and crafts. Applied Indian designs in cross-stitch on monks cloth and rag dolls which represent different tribes are the projects taught to this group.

The eleventh grade may elect arts and crafts instead of continuing clothing. In such a case, they would continue with arts and crafts through the twelfth grade. The projects taught in the eleventh grade are rag weaving on looms and bag weaving without looms.

The projects for the twelfth grade are carding, spinning, dyeing with native dyes and weaving an article using handspun yarn. A number of other twelfth grade girls get some arts and crafts because the condition of their health permits them only to observe in nursery school. These girls come to class between problems in observation at the nursery school.

The students are showing considerable interest and ability. Those who show ability in one craft usually show ability in the others. The course covers a wide range. It seems to be without an end as there are many new developments being made and more to be made in the future.



Hopi Pottery

FLATHEAD POWER SITE

The first corporate business of any chartered Indian tribe was completed by the Confederated Salish and Kootenai Tribes of the Flathead Reservation in connection with the construction of a giant power site on the Flathead Reservation. The licensee, which had been awarded the right to develop this site back in 1930, after five years of inactivity, was threatened with a suit for some seven million dollars in damages on behalf of the Flathead Indians, based on the breach of the terms of the license. In order to avoid this suit the licensee entered into a contract with the tribe, undertaking to resume construction work immediately on penalty of forfeiting all its improvements on the power site, to give preference in employment to Flathead Indians, to pay the royalties originally agreed upon, running up to \$175,000 per year, together with 4 per cent interest for delays in payment and to pay to the treasurer of the tribe \$500 a day for any future delay in completing the power site. In return for these concessions the tribe waived its present claim for damages and extended the time for completing the project to May 23, 1939.

The Flathead Indians were the first tribe incorporated under section 17 of the Indian Reorganization Act, having voted on and adopted their charter on April 22, 1936, six months after the approval of their constitution. One of the first acts of the incorporated tribe was to send a representative, Edwin Dupuis, Council Chairman, to Washington to help negotiate a settlement of the power site controversy. Final action by the Flathead Council approving the settlement thus negotiated was taken on July 10. Promptly thereafter the

Secretary of the Interior approved the amendments to the license in accordance with this agreement and on July 17 the Federal Power Commission put the seal of its approval on these amendments. On July 20 the licensee was on the job, and Indians of the Confederated Salish and Kootenai Tribes are now at work on one of the largest power projects in the world; a project capable, when fully developed, of producing 150,000 horse power.

Present plans call for an immediate development of 77,000 horse power, slightly more than half the potential, which doubtless will be sufficient for some years to come to meet all demands.

Two weeks after commencement of operations, out of 79 employees on the construction work, 70 were members of the tribe.



Flathead River

DEDICATION OF SEQUOYAH SHRINE

In 1836 when the Cherokees were driven from their homes in Tennessee and Georgia to the then unsettled and arid land west of the Mississippi, later to become Oklahoma, one man among them had already won undying fame. Sequoyah, half-breed, who neither spoke nor read the English language, had nevertheless observed the "talking leaf" of the white man, for the Indians believed that the printed page actually spoke to the whites. With pieces of bark for paper and bits of charcoal for a pencil, he determined to make the leaf "talk" to his people in their own language. As the inventor of a phonetic system, his eighty-six characters represent sounds and it is said that anyone can learn to read and write the Cherokee language within a week by means of the Sequoyah characters.

Coming to this country Sequoyah occupied a log cabin near Sallisaw. Eventually he went to Mexico in search of a lost band of Cherokees and died there. Sequoyah has gone. All that remains is an empty shell of a cabin, mud-chinked with roof falling in.

The United States Government allocated \$10,000 of WPA funds for the preservation of this cabin and the State Historical Society sponsored the work of building the shrine resembling the memorial around Lincoln's home. Members of the Creek Tribe donated the \$1,500 necessary to purchase ten acres of land surrounding the cabin and the Indian Bureau, Sequoyah County Commissioners and WPA have made possible the road project which joins Highway No. 57 near Sallisaw which winds through the incomparably lovely Cherokee hills to the shrine. Willard Stone, architect, who is a Cherokee and direct descendant of Sequoyah, supervised the building of the shrine.

On June 12, 1936, more than 5,000 persons, both Cherokees and whites, gathered for the dedication of the shrine. Mr. A. C. Monahan, representing the Indian Office, gave greetings and paid tribute to the memory of Sequoyah. Federal Judge Robert L. Williams, former governor of Oklahoma, the man who is personally responsible for the beginning of the shrine and its subsequent completion, praised the integrity, the honesty, the courage and simplicity of the man who stands alone in having originated and completed a written language.

Grant Foreman, historian and author of a number of books dealing with the Five Civilized Tribes and A. M. Landman, Superintendent of the Indian Agency paid high tribute to Sequoyah's memory, while one unique feature of the program was when Reverend Richard Glory, speaking in the Cherokee tongue, addressed the Cherokee full-bloods.

Dr. B. D. Weeks of Bacone College, of Muskogee, enthusiastically endorsed Assistant to the Commissioner Monahan's suggestion that universities establish a "chair of Indian culture" to counteract much erroneous material which is written and published about the Indians. General W. S. Key, in charge of WPA in Oklahoma, is said to have joined the hands of red man and white in his statement: "The history of the Indian is the history of Oklahoma. They are one and the same."

NAVAJO WEAVER AND CHILD AT WORK IN HER HOGAN



Photograph by H. Armstrong Roberts

NAVAJO WEAVING

By Fern E. Harris, Teacher Home Economics

Charles H. Burke School, Fort Wingate, New Mexico

Supremacy in native weaving of wool in the southwest is held by Navajo women today. These women have held this supremacy in weaving since the beginning of the nineteenth century. Legends of the Navajo people tell us of two women, one a butterfly woman who taught the Navajos the art of combining color and design; the other, the spider woman who pulled thread from her own body and taught the Navajo women to weave this thread into beautiful patterns.

Nomadic in nature, not from choice, but from necessity, the Navajos follow their flocks of sheep and goats from place to place in search of grazing and water. Their reservation, in parts of Arizona and New Mexico, is by far the largest of the United States Indian reservations. Here, lack of water, nature of the soil and aridity of climate combine to make thousands of acres unfit for cultivation. The Navajo sheep and goats furnish the wool supply for the weaving of the rugs that have made the tribe famous.

Navajo women have been weavers ever since they have lived in the southwest. Before the introduction of European sheep by the Spaniards, cotton was used for weaving. The Navajos also used the down of the wool after the coarse hair had been pulled out of the wool of the Rocky Mountain sheep obtained by the hunters of the tribe. Some of their early crude blankets were woven from the hair of rabbits. Other examples of their early art are those of woven yucca blades and the woven bark of juniper trees. These woven products were used for foot protection.

The early Navajo blankets were soft and pliable, made from soft spun yarns and worn as robes for warmth and ornamentation. The modern ones are made from hard spun yarns, are heavy and stiff, and are suitable only for saddle blankets and rugs. From these hard spun yarns have come the white man's floor coverings.

With the coming of the traders to the Navajo Reservation at the close of the nineteenth century, aniline dyes and cotton warp replaced the old vegetable dyes and the hand-spun wool warp in Navajo rugs and blankets. Later the Government forbade traders to furnish cotton warp to the Navajos.

Today in some areas many of the colors used in the rugs and blankets are native dyes made from plants and minerals found on the reservation, and

commercial dyes approximating the colors of the old blankets. A return to the use of the old patterns seems to be a slower process. The Government, through its schools, the Santa Fe Laboratory of Anthropology, New Mexico and other organizations interested in Indian welfare and Indian arts have done and are doing much to induce Navajo weavers to use the mellow dyes and the patterns of the fine old blankets their ancestors made.

The Indian Arts and Crafts Board, created in 1935, will promote a desire for genuine Indian products of superior grade and will gradually cause a decrease on the demand for and the value of machine-made imitations. It is believed that the work of the Southwest Range and Sheep Breeding Laboratory near Fort Wingate, New Mexico will result in the development of a breed of sheep best suited to the needs of the Navajos thereby producing a better grade of rug wool.

The saddle blanket is the most durable of the Navajo loom products. Some of these blankets that have been in use for more than twenty years are still in good condition. The saddle blanket is also the most ready sale of the Navajo products. One trading store now has a standing order for over three thousand saddle blankets.

Formerly, Navajo women wove the long, tasseled belts of their native dress. These belts are of a red background with narrow green stripes near the edges and a white design in the red center. Only the older Navajo women now weave these belts as it is almost a lost art among the younger women and girls. Many Navajos prefer to buy woven belts from the Hopis as the Navajo belts are more difficult and tedious to weave than the rugs. The belts of the Hopi, woven of his native dress, is similar to the Navajo belt, but it is red, green and black, while the Navajos wear only red, green and white.

The Navajo woman uses an upright loom with the warp strung over two horizontal poles for her weaving. This loom is usually attached to trees or posts or to her hogan for support. She sits or squats on a sheepskin before the loom and weaves at intervals between her other household tasks and the care of her children. In fact, all of her weaving is done in addition to her other family duties.

To the Navajo woman rug design is visionary. She has no pattern to copy. (Navajo elements of design are mostly traditional and come from the weaver's memory.) She makes her design by weaving her yarns horizontally over and under the warp threads of her loom. If she counts her threads as she weaves and makes no mistake her rug is straight and the design is even. As she weaves she rolls up the end of the rug nearest the ground so that she can lower the upper part of the loom and continue weaving her rug in a sitting position. This lowering of the rug in the frame is made possible by the lacing referred to above. When the rug is half woven, she can no longer see the design in the first part, yet, when the rug is completed the design of the whole is the same.

As the older Navajo believes that any woman among them who weaves a perfect thing will die, since anyone attaining perfection is prepared for a world beyond, the older ones made some slight irregularity in the pattern or an imperfection in the design that is usually not noticeable unless searched for carefully. Most younger women weave without regard for this belief. Many of the irregularities in the patterns are errors which the Navajo woman neglects to correct because they do not affect the sale of the rug.

A good Navajo weaver will produce one medium size blanket in a month that may sell for \$25.00 or \$35.00. The average woman does not produce this much work. A good weaver's income is low for feeding the average Navajo family of seven. The women of the families having large flocks do not weave much as the income from the sale of wool is sufficient for their needs.

The Navajos of the 19th century wore their blankets as robes. Navajos today use their products only for saddle blankets and some few pieces for bedding. They now wear Pendleton blankets which are nearly as warm and much less costly. Navajo rugs and blankets are marketed chiefly through the United Indian Traders' Association to all parts of the United States. Gallup, New Mexico, Flagstaff, Arizona are the two chief centers of exportation. A number of the rugs and blankets are sold by National Parks and museum stores. Navajo rugs are displayed and sold in art shops of many of our large cities. Foreigners traveling in our country have carried them to parts of Europe. These rugs and blankets are used mostly in beach, ranch and mountain homes and on porches. Many saddle blankets are purchased by saddlery companies.

The average tourist of the last few decades thinks of Navajo rugs in terms of black, white and red woven in large, loosely connected patterns - a rug usually harsh or bold. A revival of the mellow vegetable dyes and the antique patterns of the fine old rugs will make the public aware of the existence of a Navajo rug suitable for more general use.

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CHANGES IN PERSONNEL

The following changes in personnel have recently been made: On August 15, Charles H. Jennings entered on duty as Superintendent of the Tongue River Agency; Russell M. Kelley entered on duty as Superintendent of Haskell Institute on September 1; Henry Roe Cloud entered on duty as Supervisor of Indian Education, Indian Service at Large, on September 1.

NOTICE

In the September first issue of INDIANS AT WORK there appeared an article by Ta-De-Win, entitled "Tahu Goes Traveling." This article was re-printed with special permission from The Christian Science Monitor.

WORLD WATCHES EXPERIMENT WITH NAVAJOS

By Thomas R. Henry

Staff Correspondent of the Star - Washington, D. C.

Mexican Springs isn't a town - it's a Department of Agriculture experiment station isolated in the 23,000 square mile reservation of the Navajo Indians. Three years ago it was set up by the Office of Indian Affairs primarily to provide work relief for indigent Navajos. Today men are coming around the world - from Europe, Australia, India, South Africa - to visit it. In its huddle of one-story wooden laboratories and stone Indian hogans a group of enthusiastic young scientists is solving some of the world's most pressing problems.

Mexican Springs is a different kind of experiment station. It is the State in a test tube. Its experiment is the welding of the resources, human and material, of a vast area into a coordinated whole - from the invisible bacteria at the roots of a wild, purple-blooming legume to the shy Indian woman hand-weaving rugs and blankets from native wool under the shade of a yellow pine in the mountains. Its material is 65,000 thinly populated, rapidly deteriorating, storm-lacerated acres of lowland and mountain in one of the driest regions in the United States.

It is functioning as a Department of Agriculture of the Navajo nation. But it also is working out ways of preserving the agricultural integrity of the whole southwest and of other vast areas of the world which are beset with the same problems. Three years ago the Navajo country was undergoing the disintegration typical of the entire area. It is a land primarily of shepherds - or rather shepherdesses, for the flocks are owned and cared for by the women of the tribe.

The race had been increasing rapidly in numbers, from 8,000 to about 50,000 in little more than half a century of peace. The size of the flocks had kept pace with the population and the quality of the sheep had deteriorated so that more animals were required to produce the same amount of wool and mutton.

It is notable that the methods now being used to repair the damage are copies of farming practices followed by these Indians from time immemorial. They were preventing erosion long before white men had dreamed of it and were the prehistoric pioneers of flood control. The land was so desolate that persons unfamiliar with the history of the country threw up their hands and proposed that it be abandoned and the stricken population moved out. But the ancient Indian agriculture itself furnished a hint for a different solution, simple enough in theory, but very complicated in practice because of the human relationships involved.

This solution was flood irrigation. Before the coming of the white men, Indians had been throwing up rude brush dams in channels opened up by summer torrents. These caused much of the water to overflow the banks of the arroyos and settle over the land where it sank into the soil. This is the germ of the method now being followed by the Department of Agriculture's Soil Conservation Service, which is in direct charge of the Mexican Springs Station.

This great area of New Mexico and Arizona receives on an average from 12 inches of rain annually in the lower lands to 20 inches in the mountains. This is sufficient - but just barely sufficient to support a fairly luxurious growth of vegetation if, and only if, every drop of water which falls from the skies is conserved. Where there is an abundant vegetation, whose roots hold the rainfall from running off down the gullies, it is conserved.

Three years ago the Indian Service, looking for something at which its charges could be put to work, started an improvement on the prehistoric brush dams. They were employed in building earth or masonry dams across the arroyos which would flood the water over the surrounding territory and give it a chance to sink into the soil. This was very good so far as it went, but in most cases the vegetation was too far gone, for the moisture to bring much revival, especially with the sheep cropping it closer and closer all the time.

The experiment worked so well, however, that the attention of the Soil Conservation Service, then under the Department of the Interior, was attracted to it and the opportunity seen for a much more extensive experiment. This is what is now being carried out under the Department of Agriculture. Damming up the arroyos is only one essential part of it. These dams, by the way, are built very cheaply with native labor and entirely of native material, and the cost is inconsequential, the soil experts say, in comparison with the fertile land acquired by the process.

The larger scale experiment had been the dream-child of M. E. Musgrave, ecologist of the Department of Agriculture, with almost a lifetime of experience in the Navajo country. Its ultimate object is the practical human carrying capacity of a defined, economically and agriculturally coordinated area. And that, of course, is one of the primary problems of the world. This explains why men are coming from as far away as South Africa and India to study the progress of the experiment.

It can be worked out in about its simplest possible form at the Mexican Springs station. In the first place, the Navajos are a self-contained people. They still depend on themselves to produce about all they eat and wear. They grind their own corn without machinery. They produce most of their own wearing apparel. They build their own houses of stones of their own fields. Their tastes are simple and their standards of living rather low. Yet they are far from being a primitive people. They have a culture which compares well with that of their white neighbors.

In the second place the problem is not complicated by any individual ownership of land. All the land of the reservation is the property of the tribe as a whole. Hence Mr. Musgrave's problem resolves itself into this: How much land used to the practical limit of its resources beyond which it will deteriorate, is necessary to graze enough sheep and grow enough corn and beans to support an average Navajo family. The experiment has already shown rather conclusively that this particular territory, instead of being overpopulated actually is underpopulated in relation to its potential resources.

Where there was desert upon which a few sheep found starvation pasturage two years ago there now are thick stands of high grass and fields of the native Navajo corn which rival the best output of the cornfields of Iowa. This has been accomplished first by putting a stop to all grazing, or limiting it sharply and damming up the lower arroyos so that the flood water of the summer showers is deposited over the fields. There has been no artificial irrigation and no fertilization. The process of deterioration is turned back upon itself. First the barren field, then the rank growth of weeds, then the grass. Nature works everything perfectly if given a chance.

The primary problem at Mexican Springs is the restoration of the land - changing an almost lifeless desert back to the fertility reported by the Spaniards when they first entered the Navajo country. But this involves almost every problem of scientific agriculture - fruit raising, animal husbandry, stock breeding, forestry, meteorology, entomology, parasitology, even the cultivation of flower gardens. Experts are at work in all these lines. Millions of trees have been planted. There have been all sorts of experiments, most of them apparently failures in the introduction of exotic plants.

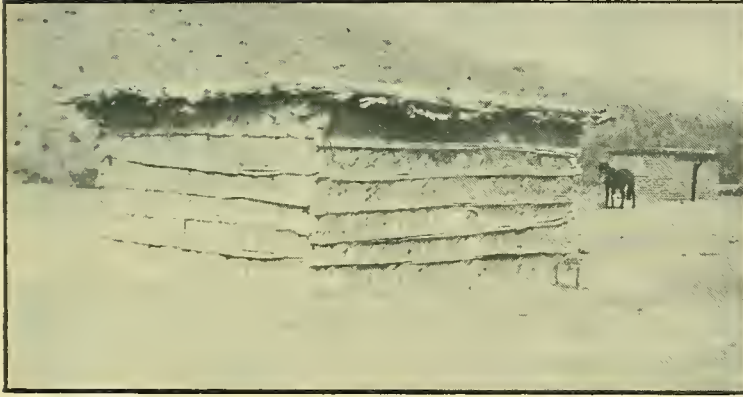
The essential point is that under Mr. Musgrave's direction everything is being correlated and a problem in forestry, for example, is not settled without calling upon the expert knowledge of the climatologist and the geologist. All the men engaged on a problem are intimately acquainted with the particular conditions.

This is what makes Mexican Springs far more than a scientific effort to solve the difficulties of a particular locality. In the sagebrush hills of New Mexico a method has been worked out which is applicable anywhere where land is deteriorating below the point where it can feed its population. It is as good in the Australian desert or in Newfoundland as here.

Soil conservation is one thing. Bringing all the resources of nature and science on soil conservation is quite another thing, with far-reaching potentialities for the country as a whole. Reprinted from the Washington Star.

PAPAGO ARCHITECTURE

By Harris H. Roberts - Project Manager
Sells Agency, Arizona



Adobe On Sahura Rib Frame At Seranake Village

For several centuries the Papago Indians have had a distinct type of architecture particularly adaptable to their simple mode of living. Whether the word architecture is applicable to these crude structures or that they come within the realm of monstrosities matters little since they have maintained true to type and represent ample accommodations for the people being served by them.

It is quite interesting to know that even in this era of civilization, surrounded by all the modern development of mankind, that only a few miles away we find these simple structures made entirely without the aid of one single implement of modern progress. It can be truthfully termed "The house without a single nail."

To one accustomed to residing in a 1936 model American home, these structures built entirely of native raw materials seem almost impossible when we observe that they are wholly devoid of any of the material used in modern construction.

A certain influence of these structures can readily be detected in our so-called Americanized Spanish architecture. Even though it has not been reproduced or copied in detail, one's imagination does not have to be exaggerated to realize that the designers of our Western types of Spanish homes would not have done thus and so if they had not had a mental picture of this simple and unique architecture.



One of the More Modern Types

A casual visit to one of these structures would afford very little, if any, inspiration to one surrounded with most of the comforts of modern living if the whole pictures, together with all its hidden materials, could not be seen.

At a glance we perceive the total absence of sawmill lumber or any single piece of modern material or equipment produced by men's machinery yet we must admit that people live there, enjoy it, and are possibly just as happy as those of us who might be so fortunate as to reside in one of the latest homes of some elite residential addition.



Papago Home in Comobabi Village

To begin the erection of a home with only the following list of material seems preposterous yet it has been done this very year of 1936. Mud, straw, Palo Verde, Mesquite, Sahauro ribs, rawhide, dirt and gravel. The average contractor of today would check over this list of material in amazement, wondering about the foundation, reinforcing, joist, studding, rafters, sheathing, roofing, flooring, mill work and hardware, all of which are included in the first given list of material.

The foundation and walls are usually made of adobe using mortar of the same material. On this type of house, after the walls have been erected, one pole column with forked top is placed near the center of the house. From this column two pole beams are erected to run each way into adjacent walls. These form the principal roof members on which are placed, in orderly fashion, the Sahauro rib rafters extending from roof beam to wall in opposite directions. After these rafters have been applied or piled on from two to four layers deep and satisfactorily anchored in place, principally by gravity, the sheathing is then applied.



Papago Home in Comobabi Village

This is another of the raw material which usually consists of Palo Verde limbs piled on until they are almost dust proof. On this comes a layer of straw, then a coat of adobe mud, about two more inches of dirt and probably one inch of gravel which lends a similar appearance to the modern gravel roof except

that the Papagos usually are careful to select a gravel which will add some color to the roof. Impressive shades of pink or brown are often accomplished by a careful selection of this roofing gravel.

The doors are made of Sahauro ribs closely laced together with rawhide strips and many of which use leather hinges and wood latched for hardware. The Papago kitchen, like those of the early southern American settlers, is usually erected separate from the house. These kitchens usually consist of pole frame and brush arbors designed only to protect the occupants from the sun. These kitchens are sometimes walled in on two sides with Ocatillo poles and often plastered with adobe. A customary fixture under these structures is a carefully selected three or four prong post set in the ground with prongs erected on which an olla of water is usually found.

Even the wells and watering troughs of these Papagos convey this same distinctive form of design and construction using only the material found in the immediate vicinity. Only a brief description of a single Papago home has been attempted here. To appreciate the beauty rendered possible by the simplicity of this unique architecture a village should be viewed from some adjacent hill or mountain. You would then see a harmonious riot of color in soft shades of cream, pink, rose, brown and green intermingled with the picturesque setting of true mountain scenery.

Two miniature specimens of these structures have been erected in the Exhibit Hall at the Rodeo grounds. Papago buildings seldom attract enough attention for the casual observer to appreciate their true significance but, crude as they are, they definitely reflect the undaunted spirit of a people possessed with the courage and determination to make the best of what they have.

* * * * *

MRS. ICKES HONORED BY INDIAN CEREMONIAL PROGRAM

Mrs. Harold L. Ickes, supporter of the Gallup Inter-Tribal Indian Ceremonial, student of the southwest Indian and author of "Mesa Land", was honored on August 28 by "Anna Wilmarth Ickes Day" at the Inter-Tribal Indian Ceremonial at Gallup, New Mexico.

The last day of the Ceremonial was dedicated to Mrs. Ickes with the consent of her husband, Harold L. Ickes, Secretary of the Interior. For many years Mrs. Ickes vacationed in the southwest Indian country. Through her numerous visits she became intimately acquainted with the Indians. Mrs. Ickes was killed the day following the 1935 Ceremonial which she attended.

TOTEM POLES IN SOUTHEASTERN ALASKA



THE ART OF THE NORTHWEST COAST INDIANS

By Lieutenant G. T. Emmons

The "Northwest Coast" of America is known successively as the home of the sea otter, the land of the totem pole and the salmon country, though never definitely defined as to limits.

The distinctive features of the early life of this area was the artistic sense of the people as expressed in form and color, in the ornamentation of everything that they possessed, from the great communal house to the least important article of use. Their carvings, paintings and woven fabrics, noticeably impressed the early explorers, who found it difficult to reconcile this excellence with their rude manner of life, and their primitive implements of shell and bone. Native copper they had in limited quantities, but without knowledge of its tempering it was useless for edged tools.

Iron was not a product of the country and it was instantly demanded from the first traders above all else. By watching the ships' blacksmiths and armorers they became apt in manufacturing from it tools suited to their needs. With improved tools, their latent talent, which had been held in abeyance so long for a want of adequate means of expression, made rapid progress, reaching the acme of development during the first half of the 19th century, where its advance was suddenly checked by contact with our commercialized civilization, in the establishment of mining camps, salmon canneries, trading stores and saloons, that attracted the younger generation, depopulating the native villages and destroying the old communal life.

Fortunately, the art and culture of this Victorian age have been preserved and can be enjoyed in the very complete collections of our principal museums.

Of the five linguistic stocks inhabiting this coast, the northern tribes were matriarchal in descent and those of Vancouver Island patriarchal, which difference seemed to have influenced the character of their art. The primitive cultural center was about Dixon entrance. Here the Tlingit, Tsimshian, Kwakiutl and Haida met, and through generations of migration, intermarriage, trade, war and extravagant peace festivities had formulated a code of laws that was strictly observed.

The unit of the social organization was the independent clan, represented by an animal totem around which their whole religious, political and social life revolved. These clan totem animal figures were carved on the totem poles and house posts, painted on the house fronts and on interior screens and shown on all household articles and ceremonial dress.

I believe that the characteristic animal art of these people was born of this social system and was continually stimulated and developed through the intense clan jealousy and rivalry of an extremely sensitive, vain and proud people in their endeavor to outdo one another upon all ceremonial occasions, especially in the elaborate display of the crest or family totem. But this art served a useful purpose far beyond any sense of ornamentation. It was their figurative means of recording and transmitting their history, beliefs, myths and traditions.

Any notes on native art as contained in the narratives of the early explorers are naturally limited. They skirted the outer, uncharted coast, anchoring only when suitable water permitted and met the people under the most unfavorable circumstances in their makeshift, temporary fishing camps. Even Vancouver's boat expeditions that traversed the principal inner channels saw few permanent winter villages, and those at a distance, owing to the suspicions and hostility of the inhabitants. His only mention of totem poles was at a small village in Fitzhugh Sound and of painted house fronts here and in Johnstone Straits.

The acquisition of iron and the accumulation of wealth from the trade in furs changed all this, and photography, that came here in the sixties, shows an abundance of both decorative poles and house fronts. Carving was largely dependent upon painting for its best effects. While the older totem poles, house and grave posts may show the natural wood surface, yet practically all show evidence of color even in their decay. It is a question whether painting did not antedate carving as so much simpler in labor and material.

The painting of a house front of the northern people was always in the animal crest and might present a realistically natural or highly conventional form. In either case the figure was outlined in black, while red and blue-green were introduced in decorative faces, eyes and even foreign figures, to represent the bone structure or to fill up vacant spaces. Interior paintings were much the same, although in some cases they elaborated detail to tell some incident in the family history.

The Nootka occupied the west coast of Vancouver Island south of Quatsino Sound, and a limited area about Cape Flattery across the straits. Although they were the first of the natives of this northern seaboard to come into more personal relations with Europeans, they have ever remained the least receptive and advanced of any of the native peoples.

In 1860 Sproat founded a colony at the head of Alberni Canal. From his writings we have the most authoritative story of the life of the Nootka. They were primarily sea hunters and the pursuit of the finback whale was their greatest industry. They were the only natives from the Straits of Fuca to the Aleutian Islands that hunted the whale. They were patriarchal in descent and lived in tribal communities of families holding the land in common.

Marriage was restricted only in case of close relationship and while the families possessed crests, they had little meaning and were used more as ornaments upon festival occasions. They had no totem poles originally, and the interior house carvings, figured by Cook and mentioned by all others, were rude, grotesque and with little or no meaning. They used paintings on boards as screens upon ceremonial occasions and as decorative features against the interior back or side wall of the house over the chief's space or apartment.

On these were represented mythical or fabulous monsters in animal form, and, for the prestige or gratification of the chief, around them some far-fetched story was woven. The figures principally shown were the Thunder Bird, the Lightning Snake and the Whale, together with the Wolf.

The myth of the Thunder Bird, continent wide, while accepted by the northern tribes, plays little part in their art or ceremonies, but it is a dominant feature in the life of the southern tribes, and among the Nootkan it is associated with the Lightning Snake, "Hai-et-lik", a slave or weapon, worn around the body as a sash, that is cast down as a streak of lightning, killing the whale. The Thunder Bird is represented in the form of an eagle with possibly a slightly more recurved bill at the point.

The Tlingit of Alaska consider the osprey, "Hahtle", as typical. "Hai-et-lik" is shown in carving and painting as a snake's body with an abnormally large wolf-like head, with a characteristic pointed hook-shaped ear and extended red tongue. Reprinted from Natural History.

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A PUEBLO INDIAN WOMAN WEAVING A BASKET



Photograph by H. Armstrong Roberts

NATURAL DYES

By Mabel Morrow

Head of Home Economics Department - Flandreau School, South Dakota

The Indian and Natural Dyes: The Indian has an extensive knowledge of natural dyes and their mordants. He found many things to dye - skins, porcupine quills, feathers, hair from animals, cotton, rush, basketry materials. Dyes were often bartered between tribes. The bark of the alder, a large shrub, together with mountain mahogany root is used by the Navajo and some Pueblo for dyeing the reddish brown buckskin used for moccasins. The Chippewa use alder bark for dyeing the cedar bark used in making mats. The lichens, *Parmelia Borreri* and *Usnea barbata*, were used by the Dakota to dye porcupine quills yellow. The Omaha and Winnebago use the soft maple together with a clay containing iron for dyeing black. They also use the roots of the Sumac for a yellow dye.

The Chippewa bury the rush for mats in a certain kind of earth for a few days and secure a good black. Rush are also dyed black by repeated dippings in a dye made from butternut and green hulls of the hazel nut. Algae growing in stagnant pools was used by the Salish for green. They also used the wolf moss for dyeing quills yellow. The Cree obtained a scarlet dye from the bedstraw or wild madder.

The colors most admired by the Comanches and Navajos are crimson, blue, purple and greens. Consequently these colors are the most common among them in all their shades and throughout their weavings they blend these with brown, yellow and other colors, with singular judgment and taste, yet it is the brilliancy of these that you most admire.

All their primitive colors are the products of the prairie and mountain flowers and their semi-colors are composed of these and the inner bark and roots of but few other plants combined in such proportions as the hue intended to be produced. They have no mineral dyes that I am aware of. Many of these flowers are small; indeed most of them are the plants of low size and begin to bloom in February, March and April and continue until summer. During the blooming, the flowers are gathered early in the morning with the dew on them and dried under a shade.

The leaves are carefully picked off, the stems and such as have their petals covered with pollen of another color such as purple or scarlet with petals of yellow or white pollen are carefully separated from it. Particular flowers only are selected; all of purple color are not used to dye purple, and so with every color, but such only as are known to make an indelible dye.

When the desired quantity of petals are collected they are carefully and cleanly bruised and into them a small quantity of lye is put, but only enough to make a thick paste which has the property of loosening the dye from the fabrics and facilitating its extraction. A small bag shaped like a money purse, made of new dog skin, deer or wolf skin, tanned by the Indians in a manner peculiar to them is used to compress the juice from the pulp. This bag is half-filled with pulp. Two handles of wood are stuck through the ends of the bag, about the length of a corkscrew handle and used to grasp a firm hold and as levers by which the bag is twisted until the juice is extracted through the pores of the skin which are very open.

Whether extracted or not for immediate use, the dye is carefully bottled in glass if it can be procured, or in small bladders if glass is not available. The pulp after compression is put into a small quantity of the same lye and permitted to remain several hours to extract any remaining dye that might be in it and undergo the same squeezing process until no dye remains.

Their green color is produced from the leaves of several plants, the juice of which is expressed in the same manner as from the flowers and used in the same manner.

Their brown color is made from the inner bark, roots and nuts of the walnut and other trees much in the same manner as the farmers' wives now dye their wool for homemade jeans.

After the dyeing is finished, the wool is dried in the shade and when well dried is exposed to the sun for a few hours. The dyeing is then complete and the wool is ready for spinning except sometimes, not always, they oil the wool slightly and diffuse the dampness through it by rubbing and rolling it in the hands.

It seems to be the peculiar quality of the set that gives the lasting brilliancy of color. I have seen the Comanche blankets, after being used for months and abused by being put under the saddle saturated with sweat, rained upon, slept in upon the naked earth and when carefully washed present the colors again as bright as newly dyed silk.

Natural Dyes Today: In every part of the country we can find some dye materials from the different lichens that grow on rocks and trees. Nearly every color can be made. Yellow and brown dye materials are most common. In many regions where there is a scarcity of any dye material or color, they are cultivated. Madder, one of the best reds has been cultivated in many parts of the United States. Madder is an important dye because it will dye many materials including wool, cotton and leather and by the use of various mordants it will yield such colors as red, purple, yellow, orange and brown. The root of the madder is used for dyes while the tops are good for cattle feed.

Indigo has been successfully cultivated in South Carolina, Georgia, Louisiana and other parts of the United States.

BASKETRY OF THE PAIUTE AND WASHOE INDIANS OF NEVADA

By Joanna Brave, Teacher - Carson Agency



A Washoe Woman With
A Burden Basket

Among the arts and crafts of the Nevada Indians, basket making is the most outstanding. Nevada has two tribes of noteworthy basket makers. They are the Paiute and Washoe. Although the latter tribe is smaller in number, they make more and finer baskets. Some of the types of baskets made are common to both tribes.

Types of baskets were determined by necessity. The Indian woman needed cooking utensils. She created a bowl shaped, moisture proof basket. The basket could not be exposed to the direct flame but the contents were heated by dropping hot stones into it. A similar basket of coarser weave served as a storage vessel.

As pine nuts formed one of the basic foods of the Nevada Indians, some container was needed in which to gather them. This need was met by weaving a conical burden basket that could be carried on the back. Quite often the point was reinforced with buckskin.

Necessity was the forerunner of the winnowing basket. It was needed to separate the fine hulls from the shelled pine nuts. It is a somewhat coarsely woven, dish-like fan. The Nevada Indians also make a very fine winnowing basket which, in addition to its uses for winnowing the tiny seeds of desert plants used for food, can also be used for mixing acorn and pine nut meal.

The baby carriers of the Nevada Indians are also of basket construction. They are made in two parts. A firmly woven flat open weave forms the board to which the baby is fastened and hung on the mother's back. The second part is a sunshade attached to the back rest. This shields the baby from the scorching rays of the desert sun. Each new baby gets a new basket. Often as a child increases in size a larger basket is made for him. The design on the sunshade indicates whether the baby is a boy or a girl. The baby basket of the Paiutes is similar to that of the Washoe. However they differ in that the Paiutes cover the willow framework with beautifully beaded buckskin.

Both the Washoes and Paiutes at present engage in making small trinket and sewing baskets for commercial purposes. The Paiutes usually cover the outsides of their baskets with intricate beadwork.

Nevada baskets are made of willow. Preparation takes much time, skill and patience. The willows are gathered in the fall after the sap has receded. The material for weaving is found between the bark and the pith of the stem. The Indian woman scrapes the bark from the willow with a piece of glass or a small knife. With the aid of her teeth and fingernails she splits the willow into twelve or twenty pieces according to the fineness of thread desired.

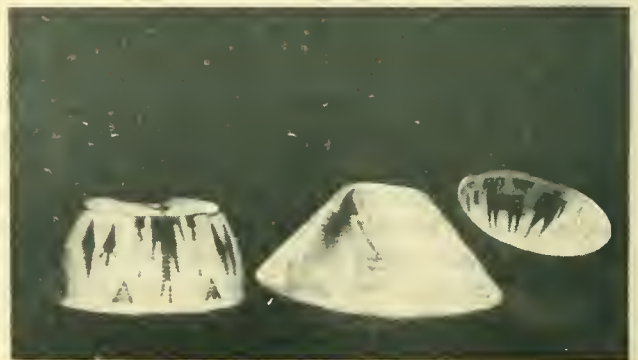
The warp consists of willow stripped of its bark and is held in place by taking from twelve to thirty stitches to the inch. The number of stitches to the inch determines the degree of compactness of the finished basket.

After several coils have been stitched into position the weaver begins to introduce colors which make up the design. Bark of the red bud, a mountain shrub, and black fiber from the root of the bracken fern are their principal sources of color. These natural colors are imperishable and the way in which the women blend them is truly artistic. The work of weaving is exceedingly slow. One round on a large basket or two rounds on a small finely woven basket forms a full day's work for a skilled weaver.

It was Dat-so-la-lee, a Washoe Indian, who expressed the art of her tribe to the height of perfection. During her life she created thirty-eight baskets. Each one is a masterpiece in itself. Her artistry not only found expression in the intricate stitches of her work but also in the beautiful names she applied to the designs of her creations. Such ethereal titles as "Sunrise Among the Hills", "Hunting in Harvest Time", "Myriads of Stars Shine Over the Graves of Our Ancestors", "Light Ascending" and "Dawn" help to express the soul of the artist that was Dat-so-la-lee.

Many of Dat-so-la-lee's baskets have been placed in Yale University Museum, Carnegie Museum of Pittsburgh and Field Museum in Chicago. Few have gone into private collections. The greater part of her work remains with Mrs. Abe Cohn of Carson City, who with her husband was Dat-so-la-lee's benefactors and patrons.

For some time there has been grave danger that the passing of the older women meant the passing of skill in basketry. The younger women seem to lack the patience required for such tedious work. However, with the revival of interest in all native arts and crafts and the encouragement of these native arts in school, the outlook begins to be more hopeful that more and more young Indians will take up the work.



Baskets Made By Nevada Indians

REMINISCENCES OF A SUPERVISOR

By Elaine Goodale Eastman

As the first supervisor of Indian schools, appointed by Commissioner Morgan in 1890 after he had persuaded Secretary Noble to create the office, it was up to me to blaze new trails. Instead of the customary allowance for traveling expenses, I asked for a wagon and a team of horses, with an Indian couple of my own choice as driver, cook and general factotum. I enjoyed every bit of the work and most of all, perhaps, my contacts with the Sioux. My ability to speak the language fluently and correctly proved an instant passport to their confidence and I held informal councils and conferences wherever I went, invited free expression of opinion and not seldom found that my conclusions had been anticipated by these keen judges of human nature.

In very few instances it was necessary to compel or even to urge attendance at day schools. On the other hand, I was sometimes taken out behind an Indian team to view the location they had selected for a new school and to verify their count of the required thirty children within walking distance. Objections to more distant schools were largely based on want of experience and a natural reluctance to part with their children for a term of years.

My reports to the Commissioner were absolutely frank and as inclusive as I could make them. They were illustrated by my own camera. Besides making a plain statement of existing conditions in a day when the limit of cost for these schools was six hundred dollars and no tests of fitness whatever were required of a teacher in the Indian Service, I tried hard to create a degree of professional ambition and esprit de corp among the personnel, which I found for the most part functioning mechanically, without hope or enthusiasm.

Occasionally, when the work was particularly impossible and the teacher's excuses especially aggravating, I would take his place for a half day and proceed to demonstrate the methods found successful at Hampton and in my own community day school at White River Camp. Appreciating their difficulties from actual experience, I gave as much praise and encouragement as I honestly could, along with plenty of constructive criticism and planned to keep in touch by letter at regular intervals. With the methods of transportation then in vogue, it was hardly practicable to visit all the Sioux schools oftener than two or three times a year.

I reached Pine Ridge about the middle of June and decided after making the rounds to call the whole force together July first for an impromptu teachers' institute. There was no time to obtain formal authority from Washington and no fund for expenses of such a meeting was available. I went ahead

on my own responsibility, merely securing the permission of an indifferent agent, and the active cooperation of the superintendent of the Oglala Boarding School, who happened to be a trained man of some ability.

We met at his school for three successive days. He helped me arrange the program and shared in the instruction together with one or two of his best teachers. We enlisted the help of the agency physician and the resident missionary for talks in their respective fields. The response was even better than I had hoped. My report brought immediate authorization of a similar gathering at each of the other Sioux agencies - a plan which one hostile agent promptly nullified by giving all his teachers immediate leave of absence so that nearly all were out of reach by the specified date. At all other points they were held successfully. These were, I believe, the first teachers' institutes in the Indian Service.

The first regular course of study was introduced soon afterward and the Indian schools were brought under Civil Service a year or two later. Two teachers from Pine Ridge went with me to the annual meeting of the National Educational Association at Pine Ridge in July, 1890. We must bear in mind that such commonplaces of the professional teacher's career were at this period a wholly new thing in the Indian field.

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An I.E.C.W. Crew Canoeing Across Nett Lake On The Nett Lake Reservation To Reach One Of Their Projects, Consolidated Chippewa, Minnesota

FROM IECW REPORTS

Water Storage Reservoirs Constructed At Coeur d'Alene (Idaho)

This week we started on the water storage reservoirs which are badly needed on this reserve. There are 320 acres in this reserve that could be used for grazing purposes except that there is no water on the reserve. When these storage dams are finished they should gather enough water in the spring to last until late in the summer. These dams are to be of dirt, rock and log construction. Ed Raboin.

This week we fixed up some bad places in the trail. During the winter a small jam was formed against a bridge and caused the water to eat away the sides of the bank next to the bridge so that it was impossible to cross. We cleaned out the jam and rocked in the places where the bank had been eaten away. Also we ditched the trail in two places where a spring had formed and had to drain across the trail. Now we are able to get into the reserve from the Reuban's side without going all the way around. James J. Broncheau.

Various Activities At Winnebago (Nebraska) The Big Bear Truck Trail work at the present time consists of the removal of trees and underbrush. This work is going forward rapidly and the entire length will soon be ready for the tractor and blade. It was thought best to clear almost the entire length before the tractor started operation; first because if this is done no time will be lost

due to clearing; second, because the tractor is busy on truck trail maintenance on the Omaha Reservation.

Soil conservation on the Winnebago Reservation has consisted of surveying land for future work and in the preparation of plans which are being sent to the Minneapolis office as of this date.

Fire pre-suppression work has had the usual careful attention to detailed observation of all the rules possible to prevent the destruction of valuable timber, valuable because each family must have a large amount of fire wood each year. So far due to the close attention to these rules, very little loss has been recorded.

Fencing on the Winnebago Reservation is being brought to a timely finish. In this work the fact that a good strong fence was wanted rather than a thing of beauty was stressed. However, each man has taken a certain amount of pride in his work and the results obtained have been very gratifying. George H. Gregory.

Fire At Flathead (Montana) The Mission Dam fire started the week off right. The fire probably started on Sunday afternoon about three o'clock but it wasn't reported until about 7:30 and by that time it had a good start. There were about 100 men on the fire by 9:30 that night and they worked all night and part of the next day before it was well under control and by that time it had burned about 200 acres. The fire was started from

the campfire of some fisherman. There were several other small fires on the same day but the only one of any significance was a grass fire reported from Hot Springs about 5 o'clock. It was a prairie fire and threatened to get away but it was under control late that night. John Shotwell.

Drift Fence Construction At Carson (Nevada) The work of construction of the eight miles of drift fence on the ridge and flat running in a northeasterly direction from the Webber Dam on Walker River to a distance of about five or four miles, thence north about two miles. Also a stretch of two miles of fence will be built closing off the gap in Long Valley.

The line was started at the bank of the river where it was advisable to tie into. A gate is to be put in at the point where the wagon trail coming along north of the river crosses the fence line. Also a gate and a standard cattle guard are to be built at the place where the main road from the dam to the Fallon Highway crosses the fence line on good hard ground and there was little sand drifts.

The new split cedar posts are being used that have been seasoned or dried out for a while after their delivery here from Oregon. The posts are placed in the ground two and one-half feet and one rod apart.

Twenty men are now on the job but a larger crew is expected next week. The weather has been very hot during the past week and the ground is very dry and extremely hard in places so that the digging of the holes has

been quite difficult. The sandy slopes are soft and consequently impossible to get over with ordinary truck, therefore, roundabout trails have to be tried in order to get the materials and men upon the line. Roy M. Madsen.

Trail Work At Cherokee (North Carolina) This week we cut underbrush off of 40 acres of young trees, where the forest was replanted and also worked one day on the Washington Creek truck trail. Roy Bradley.

This week we have been taking cross ties off the old railroad grade to be used for truck trail. This railroad has been done away with for ten years. The brush and briars have grown up so thick we got along kind of slow besides it is hard work. I have only one man used to work for me on section. It's a new job for the boys; they claim that the hardest work they ever done, but that will toughen the boys up. Joe Wolfe.

This week we have been sub-grading and putting crushed stone on the Little Bald Truck Trail, the trail builder was used to remove slides on the Blue Wing Truck Trail and the Pheasant Creek Truck Trail. Rain on Friday held up the work some, but very good progress was made this week. Jarrett Blythe.

Report From Seminole (Florida) The week was spent in working on the range revegetation project. The work is slow because of the heavy undergrowth that has to be cleared from the land. Merle V. Mooney.

Building Culverts At Five Tribes (Oklahoma) This week has been spent in building culverts or relief drain. This has been a fine week for this

kind of work. There have been two relief drains built and another started. We have four crews at this work. One crew is doing construction work; another crew has been cutting stringers and other bridge and culvert timbers; another crew has charge of getting our rocks for building purposes and the other crew has charge of making fills around culverts and bridges that have been completed. This crew's work consists of fresnoes and shovel work. Each crew has been kept busy in order to not have any delay in the other crews.

The teams have been kept busy in fresnoes work and hauling rocks and other culvert material. The two trucks have been kept busy hauling sand and cement for building culverts. One of the trucks has been used to haul some of the men to and from work every day. B. C. Palmer.

Spring Development At Crow Creek (South Dakota) This group is making excellent progress in spring development. One spring has been completed and another partially completed. Numerous test holes have been made in an effort to determine satisfactory sources of water. Usually results have been disappointing as the water table has been so lowered by successive years of sub-normal rainfall that springs which have been in existence 40 years are now dry.

The springs which have been worked on are uncovered and tile placed along the water carrying strata. The whole is covered with coarse gravel. The concrete box is 4 by 4 by 6 feet high and rests on coarse gravel. Box is covered with plank and a pump with submerged

cylinder placed on same. A. Hastings.

Fire At Red Lake (Minnesota) Prolonged drought is causing fires in these parts and retards progress on our projects. Fighting fires seems to be the main issue this week.

Red Lake River Truck Trail: A crew resumed work of brushing and clearing Monday only to be interrupted by fire alarms during the day. Then came a long distance call from Pine Island Tuesday and the crew of seventeen men left to join other groups from Red Lake. The Cat 35 started to grade the second mile of this trail.

The tower men have reported several small fires during the week which were ably taken care of. Because of the fires we have been compelled to dispense with classes and postponed ball games will be played at a later date. Joseph Graves.

Colville (Washington) Reports The last week was by far the best week of the year as far as work and leisure time activities was involved. It was marked by the enrollment of several new men, bringing the total to the largest number of the year. Our volley ball team journeyed to Central Peak Wednesday afternoon and won over that camp three games out of four.

A new ledge of rock was unearthed the last week and the compressor will probably be on the job for another month. The bulldozers have been going consistently as well as the brushing crew and the slopers.

Leisure Time Activities: Volley ball, football and horseshoes. Steve O'Neal.

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